



S/N 09/712,795

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|-------------|---|-----------------|---------------|
| Applicant: | Harold G. Craighead et al. | Examiner: | Changhwa Cheu |
| Serial No.: | 09/712,795 | Group Art Unit: | 1641 |
| Filed: | November 14, 2000 | Docket: | 1153.010US1 |
| Title: | HIGH SENSITIVITY MECHANICAL RESONANT SENSOR | | |

PRE-APEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant respectfully requests review of the final rejection in the above-identified application. No amendments are submitted with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated below:

§102 Rejection of the Claims

Claims 1-3, 5, 6, 8-11 and 21-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Quate et al. (U.S. 6,436,647) and claims 1-3, 5, 6 and 8-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Grey et al. (U.S. 20030154771). The rejections are respectfully traversed, as neither Quate et al. nor Grey et. al shows the structure as claimed. At least one claim element is not met by the cited documents.

Claim 1 recites, among other elements, a photodetector responsive to light reflected by . . . [the] resonant structure and light reflected by the substrate. Quate instead, refers to “. . . detecting a physical or chemical change through deflection of a cantilever.” *Column 4, lines 6-7*. Grey, for example, at section 8, does not provide evidence of a photodetector as recited. Quate and Grey appear silent as to a photodetector as recited in the claim and the Examiner has not set forth evidence on the record that identifies such a disclosure or teaching appearing in the cited document. As such, it appears that *prima facie* anticipation has not been clearly established.

Furthermore, claim 1 recites elements in a particular arrangement not found in Quate or Grey. For example, claim 1 refers to resonance under ambient conditions, whereas Quate is silent as to ambient conditions and instead refers to concepts such as “deflection,” “deflection movement,” (column 5, lines 1-5) and “standard AFM techniques” (column 8, lines 9-10). Also

in contrast to the recited subject matter, Grey (at the cited portions) refers to deflection and appears silent as to the use of a photodetector and resonance under ambient conditions. Indeed, Applicant notes that sections 16 and 106 of Grey teach away from the use of optical detection.

In essence, the static nature of Quate and Grey differs from the dynamic nature of the claimed subject matter. As such, it appears that the Examiner has not accorded due weight to all recited claim elements.

The aforementioned differences illustrate the shortcomings of the asserted anticipation and accordingly, the rejections should be withdrawn.

§103 Rejection of the Claims

Claims 14-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Quate et al. Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. In particular, and for the reasons noted above, Quate does not appear to teach or suggest all recited claim elements.

The Examiner has not met the burden of setting forth clear, particular and objective evidence of record as to a suggestion or motivation, from either Quate or the knowledge of one of skill in the art at the time of the invention, to modify Quate or to combine teachings in the manner proposed. Instead, the Office Action assertions appear to be derived from impermissible hindsight and not derived from particular teachings of a cited document. In addition, the Examiner has not clearly set forth grounds for a reasonable expectation of success. In contrast, the remarks in the final office action do not provide clear evidence for pursuing the proposed combination or modification.

The Examiner has not set forth cogent reasoning in support of the selection and combination of the cited art. As such, Applicant submits that the burden of establishing motivation for the proposed modification has not been met. Consequently, *prima facie* obviousness has not been established.

Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Quate et al. or Grey et al. in view of Chan et al. (U.S. 6,124,765).

Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. In addition to the foregoing, Applicant submits that the proposed combination with Chan does not cure the shortcomings noted above. For example, as to the asserted motivation, the Examiner notes that “. . . it would have been obvious to . . . have provided Quate or Grey et. al with the optimal length of cantilever beam for a better result with different analytes since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.” Applicant respectfully traverses the assertion and submits that the Examiner has not set forth evidence indicating recognition of a results-effective variable. In addition, the Examiner has not set forth cogent reasoning supporting the selection and combination of the proposed art. Furthermore, the rejection is improper for having failed to identify clear, particular and objective evidence of record as to a suggestion or motivation of the cited documents. Mere recitation of “a better result” is insufficient grounds for motivation.

Reconsideration and allowance of claim 24 is respectfully requested.

Claim 62

The Advisory Action acknowledges entry of the amendment and notes that claims 1-3, 5, 6 and 8-24 are rejected. Conspicuously, the Advisory Action appears silent as to the status of claim 62. With no rejection of record, claim 62 (which was added in the amendment) is believed to be in condition for allowance.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. Applicant's attorney is available at (612) 373-6911 if it is believed that a teleconference may expedite prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

HAROLD G. CRAIGHEAD ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6911

Date

September 8, 2005

By

David W. Black

David W Black

Reg. No. 42,331

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 8th day of September, 2005.

Name

Dawn M. Poole

Signature

Dawn M. Poole